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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,161	08/18/2003	Aaron S. Kureck	N9287	3571

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EXAMINER	
COLON SANTANA, EDUARDO	
ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/643,161	KURECK, AARON S.	
	Examiner	Art Unit	
	Eduardo Colon Santana	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-19 and 21-23 is/are rejected.

7)☒ Claim(s) 20 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 18 August 2003 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11/21/2003.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: Detailed Action.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 11/21/2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application (see attached form PTO 948). Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

3. Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

Replacement Drawing Sheets

Drawing changes must be made by presenting replacement sheets which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments section, or remarks, section of the amendment paper. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). A replacement sheet must include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The

figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and within the top margin.

Annotated Drawing Sheets

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheet(s) must be clearly labeled as "Annotated Sheet" and must be presented in the amendment or remarks section that explains the change(s) to the drawings.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and

distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites the limitation "the motor drive…" in line 16. There is insufficient antecedent basis for this limitation in the claim. It is unclear to the examiner if this motor drive is a different motor drive than the variable frequency motor drive stated in line 10.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 9-15, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Lapota U.S. Patent No. 5,625,262.

Referring to claim 1, Lapota discloses a drive system for an overhead crane (see all figures and respective portions of the specification). Lapota further discloses in figures 2 and 3, motors (64, 66) having a variable frequency drive (94, 96) operatively connected to the each motor to transfer a level of voltage, current and frequency for operation. Furthermore, Lapota discloses a processing unit (114) connected to the motors and the variable frequency drives; the processing unit receives input from microcomputers (126, 136), which are connected to output signals from

current sensors (130, 140) and encoder (102, 98), to allow processing (conversion) of the amount of voltage, current and frequency needed to maintain the frequency level equal to the frequency of the motor (see Col. 1, lines 48-61; Col. 2, lines 28-31, lines 43-63; Col. 4, line 50 to Col. 5, line 12).

As to claims 2 and 3, Lapota discloses in figure 3 an encoder (102), sensing the rotational speed of the rotor and outputting a vector to microcomputer (126), which receives and process the signal from which can be calculated an angular position of the rotor (see Col. 2, lines 57-62).

Referring to claim 4, see Col. 2, lines 48-62.

As to claim 5, Lapota describes a control switch (116) connected to the processing unit (114) to regulate the velocity (see figure 3, and Col. 4, lines 59-64). Additionally, Lapota discloses in figure 2, brakes (84, 86) connected to the motors for stopping (regulate the velocity).

Referring to claim 6, Lapota discloses that the position of the control (master) switch (level 116) determines the level of voltage and current transfer to the motors to thereby determine the rotational speed and rotational direction of the motors (see Col. 4, lines 59-68).

As to claims 9-15, the method steps are inherent in the product structure of claims 1-6 above. Further discussion is omitted.

Referring to claim 21, Lapota addresses all the similar limitations (i.e. motor drive, master switch, sensors) found in claims

1-6. In addition Lapota states the use of a program (software) for controlling the operation of the motor, wherein the microcomputer (126) including a microprocessor, memory, input and output units, receiving and transmitting information from sensors (130 and 102) to the controller (114).

Referring to claim 22, the method steps are inherent in the product structure of claims 1-6. The functional limitation "substantially" is not a positive limitation. The term "substantially" can be defined as being largely but not wholly that which is specified.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 7, 8 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lapota in view of Backstrand U.S. Patent No. 5,319,292.

Referring to claims 7 and 8, Lapota addresses all the limitations of claims 1-6, including brakes, but does not explicitly describes that the brakes are hydraulic brake. However, Backstrand discloses a method and apparatus for preventing motoring while braking in an overhead traveling crane in which a hydraulic brake is pedal applied

(see background of invention and Summary of invention). It would have been obvious to one of ordinary skill in the art to include a hydraulic brake in the control system of an overhead traveling crane for the purpose/advantages that hydraulic brakes would used less space for the fact that it relies on a single stroke of a piston to force hydraulic fluid through the system and most of the time this fluid resist vaporization due to high temperatures during operation.

As to claim 16, Lapota addresses all the similar limitations that refer back to claims 1-6, but does not explicitly describe that the master switch includes a forward, neutral and reverse position. On the other hand, Backstrand discloses that bridge and trolley traverse drives are operated by an electrical controller couple to an operator-manipulated master switch, and that such master switch has a handle with a neutral position and a series of positions in either two directions from neutral (i.e. forward or reverse) see Col. 2, lines 31-40. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a master switch couple to an electrical controller in which the handle includes a neutral position and a series of positions in either two directions from neutral as taught by Backstrand within the master switch of Lapota, for the purpose/advantages that a user can control not only the speed of the drive, but also the direction (forward or reverse, up or down).

Referring to claim 17, Lapota discloses in figure 3 an encoder (shaft sensor 102), sensing the rotational speed of the rotor and outputting a vector to microcomputer (126), which receives and process

the signal from which can be calculated an angular position of the rotor (see Col. 2, lines 57-62).

As to claims 18 and 19, the master switch as describe by Backstrand, would be considered having a running command signal if the handle is on the neutral position and a variable torque reference if the handle is moved away from the neutral position (see Col. 2, lines 36-40). One ordinary skill would obviously implement this limitation on the processing unit (114) of Lapota for the purpose of controlling torque, which varies depending on the acceleration or deceleration of the motor.

7. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Backstrand U.S. Patent No. 5,319,292.

Referring to claim 23, Backstrand discloses a method and apparatus for preventing motoring while braking (see all figures and respective portions of the specification). Backstrand further discloses an embodiment in which the drive motor is prevented from "driving through the brakes"; wherein a brake application step includes a signal to a controller for modifying controller operation when hydraulic pressure rises (see Col. 4, lines 7-15). Additionally Backstrand discloses the use of a master switch, which controls the speed in either two directions (forward or reverse). Nonetheless, Backstrand does not explicitly describe determining the torque input to the motor and setting the torque input to approximately zero when the brake has been applied. However, one ordinary skill in the art

would recognize the well-known formulas of torque[1] and force (mass times acceleration), in which the acceleration is obtain from the differential of velocity at a particular time period. Backstrand discloses having a sensor assembly 57 for determining the motor speed, and at a particular time from which the motor start to when it's suppose to stop, so acceleration can be determined. It would have been obvious to one of ordinary skill in the art to implement well-known formulas into a controller or software and include constants (i.e. mass, distance requirements, HP and RPM) so as to set the torque input to approximately zero[2] for the purpose of simplifying calculations and minimizing potential error that would jeopardize the braking system.

Allowable Subject Matter

8. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record in form 892 and not specifically relied upon is considered pertinent to applicant's disclosure to further show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon

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[1] T = F x D, wherein F is force (F= m x a) and D is distance
[2] If final acceleration is approximately zero, force will be approximately zero, therefore Torque will be approximately zero.

Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (571) 272-2800 X.33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eduardo Colon Santana
Examiner
Art Unit 2837

ECS
March 7, 2006

MARLON T. FLETCHER
PRIMARY EXAMINER